

CLAIM AMENDMENTS

1. (Currently amended) A throttle device comprising a throttle body with an air-intake passage, a throttle valve for controlling the opening of said air-intake passage, and a motor for driving said throttle valve;

said throttle device further comprising:

a motor casing which is molded integrally together with said throttle body and houses a motor body of said motor;

a portion which is on an output-shaft side of said motor body and restrained in its radial direction in the vicinity of a motor-insertion opening of said motor casing; and

a portion which is on a side opposite side to the output-shaft side of said motor body and provided with projections; ~~and~~

wherein said projections are formed in a single piece together with said motor body or attached to said motor body;

wherein said projections are arranged at specific spacings in a circumferential direction of said motor body and are deformed inwardly in a radial direction of said motor body by being pressed down by an inner surface of said motor casing so that said portion opposite to the output-shaft side in said motor body is held in its radial direction in said motor casing; and

wherein said motor is housed in a motor casing so as to keep a non-contact state between an outer surface of said motor body and, other than said projections, an inner surface of the motor casing.

2. (Currently amended) A throttle device comprising a throttle body with an air-intake passage, a throttle valve for controlling the opening of said air-intake passage, and a motor for driving said throttle valve;

said throttle device further comprising:

a motor casing which is molded integrally together with said throttle body and houses a motor body of said motor;

a portion which is on an output-shaft side in said motor body and restrained in its radial direction in the vicinity of a motor-insertion opening of said motor casing; and

a portion which is on a side opposite ~~side~~ to the output-shaft side in said motor body and provided with plural bent pieces or lugs arranged in a circumferential direction of said motor body;

wherein said bent pieces or lugs are arranged at specific spacings in a circumferential direction of said motor body and are deformed inwardly in a radial direction of said motor body by being pressed down at a deep recess-portion of said motor casing by an inner surface of said motor casing so that said portion opposite to the output-shaft side in said motor body is held in its radial direction in said motor casing; and

wherein said motor is housed in a motor casing so as to keep a non-contact state between an outer surface of said motor body and an inner surface of the bent pieces or lugs.

3. (Original) The throttle device according to claim 1, wherein said projections are elastic projections.

4. (Canceled)

5. (Currently amended) The throttle device according to claim 2, wherein at least two or more of said bent pieces or lugs are formed in a single piece together with a component of said motor or ~~formed~~ so as to be attachable to said motor body, ~~and they are arranged in a circumferential direction of said motor~~ body.

6. (Currently amended) The throttle device according to claim 1 ~~or 2~~ further comprising a motor guide formed in the vicinity of the motor-insertion opening of said motor casing;

wherein the portion on the output-shaft side in said motor body is designed so as to be clearance-fitted into an inner surface of said motor guide before said motor is fully inserted into said motor casing, and the portion on the output-shaft side in said motor body is restrained in its radial direction by said motor guide.

7. (Currently amended) The throttle device according to claim 1 ~~or 2~~ further comprising a motor guide formed in the vicinity of the motor-insertion opening of said motor casing;

wherein a motor-mounting flange on the output-shaft side of said motor body is designed so as to be clearance-fitted into an inner face of said motor guide, and the portion on the output-shaft side of said motor body is restrained in its radial direction by said motor guide.

8. (Original) The throttle device according to claim 2 further comprising a taper which is formed on at least a part of the inside surface of said motor casing so as to taper down from a motor insertion side toward a side opposite to said motor insertion side;

wherein said bent pieces or lugs have respectively curved outer surfaces, and said curved outer surfaces come into contact with said taper of said motor casing so that said bent pieces or lugs are pressed down.

9. (Currently amended) A throttle valve driving motor comprising projections formed in one-single piece together with a component of a motor body or attached to said motor body,

wherein said projections ~~is~~ are arranged at specific spacings in a circumferential direction of said motor body, are arranged on a portion opposite to an output-shaft side in said motor body, and are capable of contacting with pressure and its deformation to an inside surface of a motor casing for ~~housing~~ housing a motor body of said motor, and

wherein said motor is housed in a motor casing so as to keep a non-contact state between an outer surface of said motor body and, other than said

projections, an inner surface of said motor casing.

10. (Original) The throttle valve driving motor according to claim 9, wherein said projections are flexibly deformable projections and formed in one-single piece together with a bearing bracket or a yoke on the side opposite to the output-shaft side of said motor.

11. (Currently amended) The throttle valve driving motor according to claim 9,

wherein said projections comprise plural bent pieces which are arranged on an outer circumference of a bearing bracket at a portion opposite to the output-shaft side of said motor body by sheet-metal working; and

wherein a yoke of said motor is provided with notches for receiving said bent pieces when they are elastically deformed.

12. (Currently amended) The throttle valve driving motor according to claim 9,

wherein said projections are plural ~~rugs~~ lugs made by cutting and raising locally a yoke of said motor and arranged in a circumferential direction of said motor body.

13. (Original) The throttle valve driving motor according to claim 9, wherein said projections are formed on a ring attached to an outer circumference of a yoke of said motor body.

14. (Original) The throttle valve driving motor according to claim 9, wherein said projections are formed on a ring attached to an outer circumference of a bearing boss of said motor body.

15. (New) A motor for driving a throttle valve, comprising:  
a substantially cylindrical yoke that forms a motor body;  
a plurality of projections which project from an outer surface of said yoke in a radial direction of said yoke;  
brackets which cover both ends of said yoke;  
a motor output shaft which protrudes from one of said brackets outside of the yoke and has a pinion gear fitted thereon;  
wherein said projections are arranged at specific spacings in a circumferential direction of said yoke; and  
wherein, in an area of said yoke from one end opposite to said output shaft up to a motor output shaft side bracket of said brackets, an outer diameter of said yoke at a position including said projections is set to be larger than at the other portion of said area.

16. (New) The motor according to claim 15, wherein a size of said motor output shaft side bracket in a radial direction of said bracket is larger than said outer diameter of said yoke at the position including said projections over the entire circumference of said bracket.

17. (New) The motor according to claim 15, wherein said outer diameter of said yoke at the position including said projections has dimensions capable of pressing said projections against an inner wall of a motor casing for said motor.

18. (New) The motor according to claim 15, wherein said projections are formed by a part of said yoke.

19. (New) The motor according to claim 15, wherein said motor output shaft side bracket is provided with through holes used for screws for fixing said motor to a motor casing.

20. (New) The motor according to claim 15, wherein said motor is housed in a motor casing so as to keep a non-contact state between the outer surface of said yoke and, other than said projections, an inner surface of said motor casing.